

CLAIMS

*Sub 1* 1. A device for providing buoyancy support to an object, containing a cavity, made to contain a liquid and to have walls that generally conform horizontally in their shaping to the shape of an object to be received and immersed in the liquid, said cavity also being made of a size that causes such conformal walls to have a relatively close spacing to the *immersed* side surfaces of said object so that a contained liquid may exert an upward buoyant force on the immersed object that is greater than the weight of the liquid that it displaces and generally equal to a volume of the liquid that has the same volume as the object or that portion of the object that is immersed.

*Sub 2* 2. The device as defined in claim 1, in which the entire cavity is made to conform substantially to the shape of the object or portion of the object to be immersed and made of a size that causes the cavity to have a relatively close spacing to both the sides and the base of the object so that a maximum buoyant force may be achieved with the least requirement of liquid support.

3. The device as defined in claim 1, in which the cavity and the object are specifically made for each other, both being made with vertical walls to permit a substantially uniform horizontal spacing that is maintained at differing levels of object immersion.

4. The device as defined in claim 1, in which the cavity and the object are specifically made for each other, both being made with sloping walls that cause the walls to reduce their spacing as an immersed object increases its displacement.

*Sub 2* 5. In a device for providing buoyancy support to an object and containing a cavity, made to contain and confine a liquid, the improvement comprising cavity walls that are made to generally conform horizontally in their shaping to the side shaping of an object to be received and immersed in the contained liquid, said cavity also being made of a size that causes such conformally shaped walls to closely confine the space about the object so that a contained liquid may rise more rapidly about the object, relative to its descent, and immerse it with less displacement, yet exert an upward buoyant force on the immersed object that is substantially equal to a weight of the liquid that would be displaced by immersion to the same extent under relatively unconfined conditions.

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6. The improvement as defined in claim 5, wherein the cavity is further made to conform to the base of the object in order to further reduce the liquid weight and volume required to achieve the said buoyant force.

7. The improvement as defined in claim 5, wherein the cavity and the object are designed to closely fit, so that minimal spacing may be employed for liquid between them, both being made with vertical walls to permit a substantially uniform horizontal spacing that is maintained with differing levels of object immersion.

8. The improvement as defined in claim 5, in which the cavity and the object are specifically made for each other, with non-vertical walls that cause the walls to move closer together as the object descends into the cavity.

*Add*

*Claim 11*

*Claim 12*

*Claim 13*